



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,976	06/01/2001	Anthony J. Cooper	508-039.7-1	3295

4955 7590 10/06/2005

WARE FRESSOLA VAN DER SLUYS &  
ADOLPHSON, LLP  
BRADFORD GREEN BUILDING 5  
755 MAIN STREET, P O BOX 224  
MONROE, CT 06468

EXAMINER
----------

TRAN, THANH Y

ART UNIT	PAPER NUMBER
----------	--------------

2822

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

21

<b>Office Action Summary</b>	<b>Application No.</b> 09/873,976	<b>Applicant(s)</b> ANTHONY J. COOPER	
	<b>Examiner</b> Thanh Y. Tran	<b>Art Unit</b> 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 July 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 53-59 is/are pending in the application.
- 4a) Of the above claim(s) 1-52 and 60-86 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 53-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 53, 57, 58 and 59 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakajima (U.S. 5,986,338).

As to claim 53, Nakajima discloses in figures 4 and 13 an electronic component to have an electrical component (wafer 1) incorporated thereon, the electronic component comprising: a substrate (comprising elements 7, 9b) having at least a front substrate layer (7) with a front surface for receiving the electrical component (wafer 1) and conductive vias (as indicated at 10 in figure 4) (col. 5, lines 32-37) provided through the substrate (comprising elements 7, 9b) or at least a front layer (7) thereof for electrical connection to the electrical component (wafer 1) characterized in that the electrical component further comprising: grooves (25) provided in the front surface of the substrate (comprising elements 7, 9b) with separate conductive lines (8) being formed completely within the grooves (25) for electrical connection to the electrical component (wafer 1). It should be noted that: each of the conductive lines (at least a portion of 8 that is separately and completely formed within each of the grooves (25)).

Art Unit: 2822

As to claims 57, 58 and 59, Nakajima discloses in figures 4 and 13 an electronic component wherein the conductive lines (8) are metal (see col. 10, lines 55-62, since line 8 is conductive, it is inherently metal). The limitations of "the conductive lines are of metal deposited by sputtering" in claim 57, "the conductive lines are of metal deposited by vacuum deposition" in claim 58, and "the conductive lines are a fired slurry deposition" in claim 59 are process limitations in the product claims, which product does not otherwise patentably distinguish over prior art, cannot impart patentability to the product. In re Stephens 145 USPQ 656 (CCPA 1965).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 54-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima (U.S. 5,986,338) in view of Berkely et al (U.S. 6,031,729).

As to claims 54, 55, and 56, Nakajima does not disclose the front substrate layer is ceramic; and the grooves are formed by serration of a tape-casing, doctor blade or laser cutting. However, Berkely discloses in figure 4 a ceramic substrate having a front substrate layer (33). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the component of Nakajima by using a ceramic material for a front layer of the substrate as taught by Berkely. One of ordinary skill in the art would have been motivated because ceramic material is a high temperature material and could be used for

Art Unit: 2822

supporting the chip component mounted on the substrate. The limitations of “the grooves are formed by serration of a tape-casing, doctor blade” in claim 54, “the grooves are formed by laser cutting” in claim 55, and “the grooves are formed by chemical etching” in claim 56 are process limitations in the product claims, which product does not otherwise patentably distinguish over prior art, cannot impart patentability to the product. In re Stephens 145 USPQ 656 (CCPA 1965).

### ***Response to Arguments***

5. Applicant's arguments filed 7/20/05 have been fully considered but they are not persuasive.

Applicant argued that the conductive layer (8) is not only is within grooves but extends beyond the grooves and over portions of the front surface layer (7) which in Nakajima is described as a reinforcing plate (7).

In response, the examiner does not agree with applicant's argument because figure 13 of Nakajima clearly discloses the conductive lines (8) (at least a portion of 8 that is formed within grooves (25)) for electrical connection to the electrical component (wafer 1). Thus Applicant's argument is not persuasive.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2822

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Y. Tran whose telephone number is (571) 272-2110. The examiner can normally be reached on M-F (9-6:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TYT

  
AMIR ZARABIAN  
SUPERVISOR  
TECHNICAL UNIT 2822